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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

BOYD, JENNIFER A

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 09/12/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

mk-2

Office Action Summary

Application No.

09/719,153

Applicant(s)

MARZOLIN ET AL.

Examiner

Jennifer A Boyd

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3-16-2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☒ Claim(s) 1 and 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Specification

1. 35 U.S.C. 112, first paragraph, requires the specification to be written in "full, clear, concise, and exact terms." The specification is replete with terms which are not clear, concise and exact. The specification should be revised carefully in order to comply with 35 U.S.C. 112, first paragraph. Examples of some unclear, inexact or verbose terms used in the specification are: On page 1, line 40, the phrase "very particularly" is verbose. On page 3, line 18, "the term "abovementioned" is not a known term; please clarify. On page 4, line 37, the meaning is unclear of the phrase "which generally constitute a good part of the particles". It is advised to revise the Specification in its entirety as it contains many errors similar to the ones mentioned.
2. The disclosure is objected to because of the following informalities: incomplete brief description of drawings. Under the heading "Brief Description of Drawings", Figures 2 and 3 are not described. Appropriate correction is required.

Claim Objections

3. Claims 1 and 16 are objected to because of the following informalities: redundant language. In line 7 of claim 1 and line 5 of claim 16, "the said material" is repetitive. A suggested alternative is "the material" or "said material". Appropriate correction is required.
4. Claim 4 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 4 is not further limiting. The claim states that the adhesion

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promoter can be organic or inorganic or organic/inorganic hybrid. It is unclear what type of material would **not** meet that limitation.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1 – 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949).

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8. Claim 1 recites the broad recitation "of the oxide or sulphide type", and the claim also recites "in particular titanium oxide" which is the narrower statement of the range/limitation.
9. Claim 6 recites the broad recitation "one or more organic polymers", and the claim also recites "acrylic polymers or fluorinated polymers" which is the narrower statement of the range/limitation.
10. Claim 9 recites the broad recitation "the binder", and the claim also recites "the sizing type for mineral wool or sizing type for reinforcing strands or the binder type for a mat" which is the narrower statement of the range/limitation.
11. Claim 12 recites the broad recitation of "a thickness of at least 5 nm", and the claim also recites "between 30 and 50 nm" which is the narrower statement of the range/limitation.
12. Claim 13 recites the broad limitation of "on the production line", and the claim also recites "between the fiberizing devices, of the centrifuging dish, device for fiberizing devices, etc." which is the narrower statement of the range/limitation.
13. Claim 15 recites the broad limitation of "during the operation of conversion of the latter into the finished product", and the claim also recites "during the operation of conversion of blankets of reinforcing strands into mats" which is the narrower statement of the range/limitation.
14. Claim 17 recites the broad limitation of "deposited in the fluid phase", and the claim also recites "the liquid phase" which is the narrower statement of the range/limitation.
15. Claims 1, 2, 5 - 7, 9, 10, 13 and 14 recite the use of "type". The term "type" is not defined by the claim and the specification does not provide a standard for ascertaining the

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appropriate meaning. One of ordinary skill in the art would not be reasonably informed of the scope of the invention.

16. Claims 1 - 3, 5 - 7 and 9 - 17 contain insufficient antecedent basis for particular claim limitations.

17. Claim 1 recites the limitation "substrate" in line 1.

18. Claim 2 recites the limitations "the form of particles" in line 4 and "the form of a powder" in line 5.

19. Claim 3 recites the limitation "the thermal decomposition" in line 3.

20. Claim 5 recites the limitation "the silane, silicone or siloxane type" in lines 3 and 4.

21. Claim 6 recites the limitations "the family of the antioxidants" in line 5 and "the ultraviolet absorbers" in line 6, "the stabilizers" in line 7 and "the "HALS" type" in line 7.

22. Claim 7 recites the limitations "the TiO_2 or SiO_2 " in line 3 and "the thermal decomposition" in lines 4 and 5. Claim 7 recites the limitation of the inclusion of a metal oxide but it is unclear whether TiO_2 is the same compound as mentioned in claim 1. For the purposes of examination, the Examiner will assume that the TiO_2 claimed in claim 7 is the same oxide as in claim 1.

23. Claim 9 recites the limitations "the binder" in line 3, "the cohesion" in line 3, "the sizing type for mineral wool" in line 4 and "the sizing type for reinforcing strands" in lines 4 - 5. For the purpose of examining, the Examiner will interpret the claim as stating that the adhesion promoter forms part of the binder.

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24. Claim 10 recites the limitations "the mineral fibrous material" in lines 2 and 3, "the insulation type" in line 3 and "the reinforcing type" in line 4.

25. Claim 11 recites the limitations "the web, felt, mould, paper or bulk material form" in lines 3 and 4.

26. Claim 12 recites the limitation "the fibres" in lines 3.

27. Claim 13 recites the limitations "the liquid phase" in line 4, "the production line" in line 4, "the fiberizing devices" in line 6, "the centrifuging dish" in line 6, "device for fiberizing by external centrifuging" in line 7, "device for fiberizing by mechanical drawing" in line 8, "device for fiberizing by air blowing" in line 9, "device for fiberizing by steam blowing type" in lines 9 and 10, "devices for receiving the fibres" in line 10, "the deposition" in line 11, "the binder" in line 12 and "the sizing composition type" in line 12. Claim 13 is rendered unclear due to the lack of antecedent basis for most terms in the claim. Therefore, claim 13 will not be examined at this time.

28. Claim 14 recites the limitations "the coating" in line 3, "the liquid phase" in line 4, "the production line" in line 4, "the fibres" in line 6, "the fiberizing devices" in lines 6 and 7 and "the optional heat treatment/conditioning devices" in line 7 and "the stove type" in line 8. Claim 14 is rendered unclear due to the lack of antecedent basis for most terms in the claim. Therefore, claim 14 will not be examined at this time.

29. Claim 15 recites the limitations "the coating" in line 3, "the liquid phase" in line 4, "the production line" in lines 4 and 5, "the operation of conversion" in line 6 and "the finished product" in line 7. Claim 15 is rendered unclear due to the lack of antecedent basis for most terms in the claim. Therefore, claim 15 will not be examined at this time.

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30. Claim 16 recites the limitations "the coating" in line 3, "the liquid phase" in line 4 and "the finished fibrous material" in lines 4 and 5.

31. Claim 17 recites the limitations "the coating" in line 2, "the fluid phase" in line 3 and "the liquid phase" in line 3. Claim 17 is rendered unclear due to the lack of antecedent basis for most terms in the claim and its dependency on rejected claim 13. Therefore, claim 17 will not be examined at this time.

32. Claim 18 provides for the use of a substrate, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim 18 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 102

33. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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34. Claims 1 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Arakawa Tamio et al. (JP 08-252305)

35. As to claims 1 and 10, Tamio teaches an air purifying sheet comprising a titanium oxide particles adhered to a glass fiber fabric (Abstract). The titanium oxide particles are in the anatase form ([0006, line 5).

36. Claims 1 - 9, 11, 12 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Murasawa (US 5,547,823).

37. As to claim 1, a fibrous material (such as a wood or paper sheet) (column 4, line 60) is coated with a photocatalyst such as titanium oxide (Abstract), which is in any crystal form including anatase (claim 4).

38. As to claim 2, the titanium oxide is dispersed into a solvent in order to coat the substrate (column 5, lines 23 - 27).

39. As to claim 3, the source of the titanium oxide is irrelevant to the claimed product, therefore, the claim is not patentably limiting.

40. As to claim 4, the adhesion promoter can be organic or inorganic (column 3, lines 19 - 26) and it can be multi-component (column 3, lines 26 - 28).

41. As to claim 5, the adhesion promoter can contain silicone based polymer (column 3, lines 52 - 55).

42. As to claim 6, the adhesion promoter can contain a fluorinated polymer (column 3, lines 38 - 52).

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43. As to claim 7, the titanium oxide used as the photocatalyst also is used as a part of the adhesion promoter (Abstract).

44. As to claim 8, the adhesion promoter can contain aluminum phosphate (column 3, line 23).

45. As to claim 9, the adhesion promoter is one element in the adhesive composition (binder) (column 3, lines 26 – 28).

46. As to claim 11, the fibrous material can be in paper form (column 4, line 61).

47. As to claim 12, although Murasawa does not explicitly teach a coated fibrous material with a thickness of at least 5nm, it is reasonable to presume that a thickness of at least 5nm is inherent to Murasawa's photocatalyst composite. Support for said presumption is found in the use of like materials (i.e. a fibrous substrate with titanium oxide and a choice of adhesion promoters) and use of like processes (i.e. the use of an adhesion promoter to bond the titanium oxide to the substrate) which would result in the claimed property. The burden is upon the Applicant to prove otherwise. In re Fitzgerald 205 USPQ 495.

48. Claims 13 – 15 and 17 – 18 were rendered unclear due to the lack of antecedent basis for most terms in the claims, therefore, these claims will not be examined at this time.

49. As to claim 16, the coating of the composition is done using any ordinary coating technique in the liquid phase, which is implied by spraying or immersing (column 5, lines 54 – 60). After coating, the composition is subjected to heating (column 6, lines 5 – 9).

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Conclusion

50. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

JP 11-290700 to *Tougeda Hiroshi et al.*

JP 07-100378 to *Kato Kazumi et al.*


JP 10-001879 to *Komatsu Seiren KK et al.*


US 6,103,363 to *Boire et al.*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A Boyd whose telephone number is 703-305-7082. The examiner can normally be reached on Monday thru Friday 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 703-308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.


Jennifer Boyd
September 9, 2002


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